On: 25 January 2015, At: 12:27
Publisher: Routledge
Informa Ltd Registered in England and Wales Registered Number: 1072954
Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK

Scottish Geographical Magazine
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/rsgj19

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Published online: 27 Feb 2008.

To cite this article: J. P. Thomson F.R.S.G.S., etc. (1894) The land of Viti , Scottish Geographical Magazine, 10:3, 120-140, DOI: 10.1080/00369229408732695

To link to this article: http://dx.doi.org/10.1080/00369229408732695

THE LAND OF VITI.[1]

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BEFORE entering on my subject, I wish to assure my readers how highly I appreciate the privilege conceded to me of contributing a paper to the *Magazine* of the Royal Scottish Geographical Society.

It will be remembered by readers of the *Magazine* that the last paper I had the honour of contributing to the literary archives of the Society was upon our youngest colonial possession—British New Guinea. The subject of the present contribution is also upon one of our youngest British colonies—an archipelago of islands endowed with great wealth of natural resources and rapidly rising in commercial prosperity. Intimately associated with the establishment of British government in this colony were two famous Scotchmen, Sir Arthur Gordon and Sir William MacGregor, and for that reason, but more especially in view of the commercial importance of the islands, the contents of this paper, which records some of the experience acquired during several years of professional life in the group will, it is hoped, prove of special interest to the members and fellows of the Royal Scottish Geographical Society.

The position of the archipelago of the crown colony of Fiji is no doubt known to most of my readers, but, nevertheless, it may not be amiss to make some slight allusion to its remarkable geographical position.

Entirely encircled by the great equatorial drift-current and its offshoots, the Fiji Islands lie 1172 miles almost due north from Auckland in New Zealand, and due east from Halifax Bay on the coast of Queensland. North-east of them are situated the Samoa or Navigator Islands; to the south-east the Friendly or Tonga Islands; to the south-west the Loyalty Islands and New Caledonia; and west of them lie the New Hebrides. The whole group extends from about 15½° to 21½° south latitude: on the east it is bounded by the 178th meridian of west longitude, and on the west by the meridian of 176° 50′ east longitude; thus the anti-prime meridian passes right through the colony. From Sydney the distance to Suva, the capital of the group, is about 1800 miles, and from Melbourne the same place is separated by some 2222 miles of ocean highway. Although scattered over 139,000 square miles[2] of the South Pacific, within the great Polynesian division of Oceania, the actual land area of Fiji is probably little more than 7451 square miles.

Regarding the early history of this prosperous British colony little definite information can be gathered from our modern literature. Since about the middle of this century several interesting narratives of the

[1] Read at the Adelaide Meeting of the Australasian Association for the Advancement of cience, September 1893.

[2] An error has obviously been committed by the Rev. Thomas Williams, who states that he group extends "over about 40,000 square miles of the South Pacific."—*Fiji and the Fijians*, 2nd ed., revised, p. 1.

group and its people have emanated from the pens of various estimable writers, including the admirable work published in 1858 by the Rev. Thomas Williams of Adelaide, who for many years laboured in Fiji as a Wesleyan missionary, and who was, moreover, a careful and intelligent observer. In none of these works, however, are we able to find anything more than a passing allusion to the prehistoric age of the land of Viti and its interesting race. To this fascinating subject our attention has recently been invited by Mr. Charles Hedley, F.L.S., of the Australian Museum. In a paper contributed to the Linnean Society of New South Wales,[1] Mr. Hedley, dealing with the geographical distribution of the molluscan fauna of the South Pacific, points out that the range of the genus *Placostylus* unmistakably denotes the early continental character of Fiji and other neighbouring groups—that in fact New Zealand, New Caledonia, Samoa, and Fiji are fragments of what was formerly a continent.

In a few notes upon Mr. Hedley's paper, contributed to the Queensland Branch of the Royal Geographical Society of Australasia,[2] I pointed out that to this extensive area designated the "Melanesian Plateau," and which was probably united during the Mesozoic era, should be added, at least, Australia and New Guinea. This opinion is in harmony with the views expressed by Professor Geikie, Wallace, De Vis, Maitland, and other well-known authorities.

If it be admitted that these views are borne out by the broad geological and palæontological features of these regions, then our investigations concerning the origin of the Fijians and other peoples of Polynesia will, I submit, be greatly simplified, and all doubt concerning the early movements of these island-dwellers set at rest.

That an enormous area of Oceania was formerly occupied by an extensive continental region, of which the numerous islets and groups of islands now separated and scattered about in all directions formed prominent and conspicuous features, seems unquestionable. Still less reason is there to suppose that the now extinct faunas of these regions were at any period of the world's history separated by such clearly-defined lines of demarcation as would adequately and effectually create an insuperable barrier and form distinct zoological provinces corresponding with the positions these widely-scattered fragments now occupy.

Concerning the causes that combined to insulate these regions we can only indulge in vague conjecture, probably of the most extravagant kind. Even now there are abundant signs that subterranean convulsions have not yet ceased in many isolated parts; but whether these are simply traces or after-effects of the forces that brought about the apparent changes in the physical features of this oceanic division we cannot definitely decide.

DATE OF DISCOVERY.—Fiji was discovered in 1643 by the celebrated

[1] *The Range of Placostylus: A Study in Ancient Geography.* By C. Hedley, F.L.S. Vol. vii. (2nd series) of the *Proceedings of the Linnean Society of New South Wales*, p. 335.

[2] *The Melanesian Plateau: Notes on Mr. C. Hedley's paper.* By J. P. Thomson, F.R.S.G.S. *Proceedings and Transactions of the Queensland Branch of the Royal Geographical Society of Australasia*, vol. viii.

Dutch navigator, Abel Jansen Tasman, and was subsequently sighted by Captain Cook, in 1776; by Capt. Bligh, in 1789 and 1792; and by Captain Wilson in the *Duff*, in 1796; the two latter having passed through the group. There is little doubt, however, that in much earlier times this archipelago was not unknown to the Phœnician sailors who voyaged across the Indian and South Pacific Oceans to the shores of the great American continent. But it was not till the beginning of this century that the natural productions, *bêche-de-mer* and sandalwood, attracted adventurous traders to the coral-girt islands of Viti. About the same time the group was visited by a batch of notorious convicts who, having escaped from the penal establishment in New South Wales, settled among the Fijians. From the year 1804 till 1840, when only one out of the original number of 27 was left, their demoralising influence produced most baneful effects upon the natives of Bau and Rewa. The social habits of these refugees were low and brutal, and in tribal warfare they incited the natives to wanton acts of barbarism and cruelty. This, indeed, was the deplorable condition of the Fijians when the Wesleyan Church missionaries commenced their christianising work in 1835, the Revs. W. Cross and D. Cargill being the first to preach the gospel to this savage and cannibal people. Since that date the noble work of evangelisation has been carried on with vigour and success by the Wesleyan and Roman Catholic Churches. Rapine and plunder, savagery and cannibalism, and all the immorality of heathen life have disappeared before the civilising agency of the British Government and modern Christianity; consequently, we find the Fijians of to-day a useful and law-abiding people, living, moreover, in the full enjoyment of their ancient rights and usages, and participating, also, in all the privileges granted to British subjects throughout the Empire.

With pioneering settlement the work of survey and exploration went hand in hand. For the preliminary part of this important undertaking we are mainly indebted to the accomplished officers of the British navy and that of the United States of America, who conducted the marine survey of the archipelago. It was not, however, till after the group was annexed to the British crown, in 1874, that the actual land survey of the islands was undertaken and carried out in detail, being commenced by a small detachment of the Royal Engineers under the direction of Col. Pratt. Shortly afterwards that officer and most of his assistants were withdrawn from the colony, and the work of the survey was taken up by a staff of government surveyors, including myself, and one or two of the Royal Engineers who elected to remain behind. The earlier labours of these officers were chiefly directed to the coast survey and the exploration of the island colony, undertaken mainly for the purpose of assisting the Royal Commission appointed to investigate the European land claims. This was followed up by the permanent cadastral survey, which included all claims to land allowed or confirmed by the Commission, the rivers and creeks, the mountains and other physical features. The whole work, based strictly upon the true meridian, which is undoubtedly the best method for Australasia, was carried out with a degree of accuracy and completeness that reflects the greatest credit upon

the Survey Department of the colony, of which the Honourable John Berry is head.[1] This will readily be admitted by all who know the exceptionally difficult character of the country. Apart from the enervating influence of a tropical climate, the dense jungle, the intricate forest belts, the surface vegetation and the exceedingly rugged nature of the islands combined to form impediments requiring great skill and physical strength to overcome. The daily task of climbing mountains, swimming rivers and channels, and wallowing in mud flats and among dense mangroves must sooner or later produce a very marked effect even on the strongest constitutions.

GEOGRAPHICAL DIVISIONS.[2]—The archipelago of Fiji comprises some 225 islands,[3] of which about 80 are inhabited, while several are mere barren rocky pinnacles shot up, as it were, from the floor of the ocean. The total land area of the group is probably about 7451 square miles. Of this Vitilevu occupies some 4112 miles, Vanualevu about 2432, Taviuni about 217, Kadavu 131, and the residue is distributed among the other smaller islands of the archipelago. The area of Kadavu was very carefully determined by myself, and I contributed a paper on the physiography of the island to the *Scottish Geographical Magazine*.[4]

For easy and ready reference the colony may be geographically divided into four groups. These comprise the Eastern Division, known to modern geographers and to the natives as Lau, and including the Windward and Ono clusters; the Southern Division, embracing Kadavu, Moala, Totoya, Matuku, and neighbouring islets; the Western Division, comprising Vitilevu, Ovalau, Gau, Wakaya, Nairai, Makogai, the Yasawa cluster, and surrounding islets; and, lastly, the Northern Division, including Vanualevu, Taviuni, Rabi, Coro, Qamia, Cikobia, Yadua, and others of less importance. These partitions which, besides coinciding with climatic zones of different peculiarities, are sufficiently marked in themselves to establish their claims to recognition as distinctly separate divisions, are partly based upon the bathymetrical data determined by the marine survey of the British navy. In Kadavu Passage, between the Southern and Western groups, there exists an abyss of some 1020 fathoms in depth; on the east of the Southern Division there is a dip of 1200 fathoms; in Nanuku Passage, separating the Northern and Eastern sections, the soundings show a depth of 543 fathoms. In some parts of the group the bathymetrical lines are not so pronounced as those I have noted; in others, soundings have not yet been taken. Still, the other existing geographical features are, in themselves, sufficient reasons for adhering to the natural divisions here indicated.

Commodore Wilkes, in his narrative of the United States Exploring Expedition, divides the group into seven districts;[5] while Rev. Thomas

[1] The Departmental Staff is now reduced to two officers.

[2] For Map of Fiji see vol. vii. p. 440.

[3] *Macuata.* By J. P. Thomson, F.R.S.G.S. *Proceedings and Transactions of the Queensland Branch of the Royal Geographical Society of Australasia*, vol. i. p. 27.

[4] *The Island of Kadavu.* (With map.) By J. P. Thomson, F.R.S.G.S. *Scottish Geographical Magazine*, vol. v. p. 638.

[5] *Wilkes's Narrative of the U.S. Exploring Expedition*, 1838-1842, New York.

Williams counts eight divisions;[1] and the natives, when speaking of different parts of the archipelago, refer to five provinces, namely, Vitilevu, Vanualevu, Upper Fiji, Lower Fiji, and Central Fiji. None of these divisions appears to me to quite correspond to geographical characteristics of the group; the parts are, moreover, too fragmentary. The Yasawa Group is simply a chain of islets scattered over the northerly extension of the Great Sea Reef that encroaches upon the shores of the Nadi District on the west coast of Vitilevu. The whole base of this extensive northerly prolongation has been carefully plumbed by the sounding line, and nowhere does the depth of water much exceed 40 fathoms, while in some places it diminishes to about a fourth of that depth. And yet this group is classified by the writers just mentioned as one of the divisions of the colony.

NORTHERN DIVISION.—The Island of Vanualevu, the second largest of the group, occupies the greater portion of this division. From its most westerly point, called Nai Cobocobo, in longitude 178° 28′ east, it stretches north-eastwards for about 100 miles, and, crossing the 180th or anti-prime meridian, terminates in Cape Udu, in longitude 179° 56′ west. From Savusavu Bay to the northern coast it measures about 21 miles across, but as the island contracts considerably in some places, and in others greatly expands, it is scarcely possible to form an adequate conception of its shape or extent from a written description. To the south of Cape Udu lies the entrance to Natewa Bay, or the "Dead Sea" as it is called by the natives, an enormous indentation of some 40 miles in length, and, on a small scale, somewhat resembling the Gulf of Carpentaria, Queensland. Near the middle of the island, and on its southern aspect, is situated Savusavu Bay, a broad haven, wherein are to be found water and capital anchorage for trading vessels of every description. This and the Bays of Nadi and Sandalwood, to the westward, are the most useful indentations on the southern shores of the island, while, on the north side, snug harbours are to be found along the whole coast line. In a large island, such as Vanualevu, one would naturally expect to find a variety of physical features, nor are we disappointed in this respect. Along the entire seaboard extends a coast range, at some places rugged and precipitous, at others easily accessible. On the north coast the elevations are from 1200 to 2000 feet, the continuity of the range being broken in several parts by extensive fertile valleys, through which flow the waters of the Dreketi, Wailevu, Labasa, Dogatuki, and other rivers and creeks that carry most of the rainfall of the interior to the sea, while, overlooking the southern shores of the island, huge pyramidal masses, towering high above the neighbouring country to altitudes of some 4000 to 5700 feet or more, terminate abruptly near the water's edge. The topographical features of the interior are mainly composed of rugged and steep lateral spurs of the main coast ranges, with numerous precipitous hills, intervening valleys, limited areas of slightly undulating and moderately flat land, and patches

[1] *Fiji and the Fijians.* By Thomas Williams, late missionary in Fiji. Edited by George Stringer Rowe. Second Edition. London, Alex. Heylen, 1860, p. 15.

of swampy country. Running water is everywhere abundant, and, although free from loose stones and rocky boulders, the inland region is not by any means easy to traverse, whether for the professional surveyor or the natural history collector. The physical features of the smaller islands of this Northern Division are for the most part similar to those just described, except that along the whole coast line of Taviuni no deep bays or sheltered inlets indent the shores of the beautiful and fertile island. Separated from the south-eastern coast of Vanualevu by Somosomo Strait, Taviuni extends about 25 miles longitudinally from north-east to south-west, with a perimeter of some 60 miles. The island is almost entirely occupied by a high mountain range, extending along its whole length and culminating in lofty peaks over 4000 feet above sea-level. On the crest of this range, near the middle of the island, a beautiful placid lake of fresh water spreads itself over a deep depression, which probably is all that now remains of an extinct crater of a bygone age, when the group shook and trembled with the violent convulsions of volcanic activity that shattered the Great Melanesian Plateau into insulated fragments. On the eastern side of the island the spurs and outliers of this range spread themselves out to the seashore, and present a strange contrast to the general appearance of the western coast, where extensive patches of flat and gently undulating lands are met with. The island of Koro to the south, and that of Rabi, east of Vanualevu, are both rugged and mountainous; as in the case of Taviuni, the former possesses no sheltered inlets of any consequence in which vessels may ride in safety during stormy weather. The most northerly outpost of this division, and therefore of the whole group, is the remote island of Cikobia, situated some 26 miles due north of Cape Udu. It is of an elongated tongue-shaped form, extending eastwards and westwards. Owing to its exposed position and the absence of safe and sheltered havens, this island is rarely visited, except by small trading vessels that call for *copra* and the beautifully-manufactured floor-mats, for which the place is noted.

EASTERN DIVISION.—Of the numerous small isolated islands and clusters of islets that lie in close proximity to each other within this division, Vanua Balavu, Lakeba, Cicia, Mago, Nayau, Tuvuca, and Kabara merit priority of place; not that they are remarkable in size, for the largest is only some 24 square miles in extent, but because they are the largest of this section. Except the first, which is long and narrow, and is indented by several bays and inlets, these islands are nearly round, with elevations that culminate in their centres. The island of Mago is the property of some Europeans, who formerly utilised it for the cultivation of sugar-cane. The other islands of which we are writing are occupied by the natives, who cultivate many varieties of food products, for which the rich soil is eminently adapted. Apart from the romantic aspect of the coral-girt gems that stud these eastern waters of the group, the early association of the Tongans with this division, upon the shores of which they first landed, will always render it especially interesting to students of ethnology.

SOUTHERN DIVISION.—Within this division are some very prominent

and remarkably interesting features. Of the five islands of which it is mainly composed, Kadavu is the most important. Extending in a north-east and south-west direction, the whole island is traversed by an irregular, rugged, and strangely contorted mountainous range, culminating in several high peaks of some 1140 to 2750 feet above the sea-level, of which Washington, Challenger, Korolevu, and Korotusara are the most noteworthy.

These and others of somewhat less elevation throw off steep and broken ridges that, radiating in various directions from the central peaks, terminate abruptly on the adjacent shores of the island, where their bases plunge deep into the waters of the ocean. Although its length is only some 33 miles, and the greatest breadth about 7 miles, the total length of coast line of this island is very considerable, owing to its irregularity and the succession of deep bays and intricate inlets, which run far into the land, and, in one or two places, almost cut the island in two. At Tavuki Isthmus, indeed, the continuity of the mountain range is broken, and the land is so low, that canoes and boats are frequently dragged across from one side of the island to the other. Where so many bays and inlets exist it is only natural to expect that many snug and sheltered anchorages will be found. Chief among these is the excellent harbour of Galoa, where, in the earlier days of British settlement on the shores of these islands, the American mail steamers were wont to cast anchor in the smooth and limpid waters of a sheltered bay. These days of pristine vigour, alas! have gone, and we sigh o'er the memories of the past.[1]

Mount Washington, or Bukelevu as it is called by the natives, which occupies the south-west end of Kadavu, is the landfall of vessels entering the group from the south. It is a very prominent landmark, but, except in very clear weather, the summit of the mountain is usually enveloped in dense vapour. Close to the north end of Kadavu lies the island of Ono, within the great Astrolabe Reef. It is small and somewhat roundish, indented by two or three convenient bays, and occupied almost wholly by a cone of volcanic origin; on its shores are scattered a few native villages.

The eastern limit of this division is marked by the picturesque islands of Moala, Matuku, and Totoya, all of which are composed of high broken ridges from 1184 to 1535 feet above sea-level. The former is an irregularly-shaped island, indented by sheltered bays, and the latter has the curved outline of a horse-shoe, with the opening to the south; t is probably a raised atoll, with a lagoon in the centre.

WESTERN DIVISION.—The land area of this division is larger than that of any of the preceding, and, by reason of its social and political history, this part of the group is undoubtedly of exceptional interest and importance. Great Fiji, or Vitilevu, is a large island, measuring 93 statute miles across its greatest breadth from east to west, and 68 from north to south. Among the numerous commodious bays on the

[1] *The Island of Kadavu.* By J. P. Thomson, F.R.S.G.S., etc. *The Scottish Geographical Magazine,* vol. v. p. 641.

coast, the magnificent and picturesque harbour of Suva is pre-eminent. Situated on the south coast, it is flanked on the west by densely-wooded hills, while at its head and on the eastern shores nestles the European capital of the group. Here Government House occupies a picturesque spot on a gently sloping knoll near the southern end of the town, and the private dwellings of the government officials and other inhabitants are scattered over the hill-sides, commanding an unobstructed view of the harbour and surrounding country, with its green and variegated mantle of rich luxuriant vegetation. Along the beach are the business houses and main thoroughfare, where busy people, dressed in helmets and light shirts and trousers, hurry along both early and late; the whole aspect of the place bears the impress of prosperity.

The northern, and part of the eastern, coast of Vitilevu is traversed by a range of high hills. In some places the spurs of this range encroach upon the seashore, but there are parts where the base of the hills is bordered by wide strips of flat fertile land. Owing to the physical configuration of the country there are no navigable watercourses by which the interior can be reached, the rainfall being carried off by numerous creeks. On the southern coast, however, the physical conditions are entirely different; here are to be found tracts of flat land, many thousands of acres in extent, spread out over the coastal districts, and extending far back to the high and rugged mountain regions. Here, too, are located the two largest rivers in Fiji, the Rewa and Sigatoka; the former disemboguing into Laucala Bay, some 8 miles east of Suva,[1] traverses a beautiful and fertile basin of great extent and richness. Including tributary streams, its navigable length is over 70 miles, and it drains an area of some 1360 square miles, or about a third of the area of the island; its principal affluents are the Wainibuka, the Waidina, and the Wainimala. The first drains the western and southern watershed of the northern and eastern coast range, and the latter receive the waters of a high range that traverses the middle of the island from north to south, culminating in Muani Vatu, about 4000 feet above sea-level.

It is in the western face of this range that the source of the Sigatoka River is located, separated from the head-waters of the Wainimala by the high and narrow crest of the mountain; the distance across the mountain between the head-waters of the rivers is very short indeed. In point of magnitude the Sigatoka is scarcely inferior to the Rewa. From its head-waters, in the remote interior of the island, it drains the districts of Navosa, Nadroga, and Serua, and, meandering through wild broken country of exceptional loveliness, foaming and tossing through deep narrow gorges, over and around huge boulders, reaches the sea at the south-west corner of the island.

On the north-west coast lies the Ba River, a large and important stream, with two principal affluents, that originate in the high and rugged mountain ranges of the interior. The lower basin of this river

[1] *The Rewa River, Fiji.* By J. P. Thomson, F.R.S.G.S. *Proceedings and Transactions of the Royal Geographical Society of Australasia, Queensland Branch*, vol. ii. p. 32.

is composed of rich alluvial flats of considerable extent, mostly owned and cultivated by Europeans.

Concerning the physical features of the numerous small islands forming the remainder of this division little need be said. Except in extent they very closely resemble those of which a description has been given. Bau, the seat of the late King Cakobau, and the native capital of the group, is a small and insignificant island, connected with the east coast of Vitilevu by a long coral reef, a few miles north of the mouth of the Rewa River. The early associations of this historical capital are full of wanton cruelty, savagery, and cannibalism, to which the rising generation is happily strange. Some distance north of Bau lies the island of Ovalau, upon the eastern side of which is situated Levuka, formerly the European capital, amid verdant hills and precipitous rocky cliffs. It is truly a charming spot of unsurpassed beauty, and, as it welcomes the morning sun, the hues and tints spread over the luxuriantly mantled hills and valleys present a picture of inimitable loveliness, nor can we deny this meed of praise to many other parts of this gem-like isle. It was on the shores of Levuka Harbour that I first touched Fijian soil, and it was at Nasova, the charming seat of government, at the south end of the town, where my professional duties in the colony commenced.

REEFS.—In order to avoid repetition and to economise space, I shall deal with the reefs of the whole group together, instead of describing the coral areas of each division separately. The islands of Fiji are either wholly surrounded, or partially fringed, by coral reefs of three classes, usually distinguished as atolls, barrier reefs, and fringing reefs. Of these we find a barrier reef, practically the only one of its kind in the whole group, extending north-easterly from the south-west corner of Vitilevu to Cape Udu, the Land's End of Vanualevu. Along the entire length of this enormous barrier are numerous associated lateral fringing reefs, that skirt the shores of the small and moderately large islands scattered over the whole western side of the archipelago. At several places the barrier reef is cleft by roomy or narrow passages, and the numerous openings in the shore, or fringing, reefs afford a safe approach to the land. In the southern and eastern part of the colony the coral areas appear in the form of atolls with the usual enclosed lagoons. The form and character of these reefs are exceedingly interesting, and their general aspect exquisitely beautiful.

The origin, character, and permanency of the coral reefs of the great Pacific Ocean are subjects upon which many diverse opinions have been expressed. Recent investigations throw a doubt on the accuracy of the data upon which some of the earlier conclusions were established, and it is now certain that many of the premises upon which Professor Darwin based his theory of subsidence are not supported by fact. In a very able and exhaustive paper contributed to the *Scottish Geographical Magazine*, Dr. Guppy points out that in placing the Fiji Archipelago in an area of subsidence, Darwin was guided by defective and even erroneous evidence; that, as a matter of fact, the Lau Group "possesses elevated reefs sometimes removed 600 feet above the sea," and that the character of the *foraminifera* of the soapstone deposit at Suva, recently investigated

by Mr. H. M. Brady, affords evidence of an upheaval in post-Tertiary times of from 1000 to 1200 feet.[1] This view of the question is entirely borne out by the writer's own observations in many parts of the group, and nowhere is the evidence stronger than in the interior of some of the larger islands, where the old coral beds occur in the mountainous districts. There can be no doubt, however, that the defective points in Darwin's conclusions are to be attributed entirely to the scanty and imperfect data with which he had to deal, and not to faulty judgment on the part of that eminent authority.

It is mainly to the investigations of Wichmann and Weinicke that we are indebted for our knowledge of the geology of the Fiji Islands, although others have contributed much useful information upon this interesting subject. From the information these authorities supply, which there is no reason to distrust, the geological character of the group is chiefly marked by the presence of plutonic rocks, with which are associated crystalline schists, and over these lie accumulations of organic and volcanic deposits. While this general description holds good for most parts of the colony, there are several places in the larger islands where sedimentary rocks occur, and these have yielded fossiliferous deposits of Tertiary age. It must, however, be understood that, within the limited scope of this paper, little more than a general sketch of the geological features can be given.

The soils of Fiji are rich and various: river valleys and flat lands are covered with a deep alluvial soil of wonderful fertility, and deltaic areas are composed of highly fertile alluvial and diluvial deposits that are being constantly added to. On hilly country, and low undulating areas, the surface soil is a free and stiff loam, rich in humus. Extensive areas of rich *débris*, highly charged with phosphates, fringe the bases of the mountainous country, while the mountain slopes are covered with fertile soils, mainly composed of organic matter. The highly productive qualities of all of these are everywhere apparent in the density and luxuriance of the forest vegetation.

A word may be said on the scenery of Fiji. To state that the scenic beauties of the archipelago are charming conveys no adequate conception to the mind. Beauty that defies description is here to be seen, on the hills and mountain flanks, in the narrow glens and gorges, along the winding rivers, in the rapid foaming streams, by the silent lakes and marshes, and on the wide-spread plains and valleys. The forest with its richly coloured foliage, and the ocean with its submarine structures, sometimes a scene of quiet beauty, and sometimes of awful grandeur, have each its peculiar charm. In the different countries through which I have wandered I have seen nothing to surpass the natural loveliness of the coral-girt isles of Viti. There is some mysterious attraction in the place—a kind of preternatural power that completely enthrals those who live any length of time in the colony.

PRODUCTS.—The natural products of this flourishing young colony

[1] *A Criticism of the Theory of Subsidence as affecting Coral Reefs.* By H. B. Guppy, M.B. *S.G.M.*, 1888, p. 128.

are very considerable. From *bêche-de-mer* alone a sum of over £4812 was derived in the year 1887; and this sea-slug is scattered over the surface of the coral reefs of the archipelago. There are several varieties of wild fruit, including oranges, mangoes, shaddocks, and guavas. There are also wild bread-fruit, yams and other edible tubers. In the forests are gums and several varieties of very valuable timbers, including sandalwood. At one time there was a very considerable and remunerative trade done in the latter, but now it is scarce, and for several years has not been exported from the colony. To gums very little attention has been given, the energy of the colonists being directed to enterprises of greater magnitude; it is, in consequence, an industry awaiting development at the hands of some enterprising trader who may here find the means of profitable employment. Of pearlshell and tortoiseshell the export is at present small, but there is probably room for developing this very profitable industry. At the present time sugar, *copra*, and green fruit constitute the staple products of Fiji; the cultivation of the former has for many years been restricted to the earlier settled districts of the Rewa, Ba, Mago, Navua, and Serua; now the Colonial Sugar Refining Company has extended its ramifications to the Labasa and Wailevu, on the north-west coast of Vanualevu, and in other suitable parts of the group the cultivation of the sugar-cane is receiving attention. Exclusive of local consumption, the total value of the sugar exported from the colony in the year 1891 was £327,526.[1]

Copra comes next in importance, and although the market for this article is at present low, the cultivation of the coconut industry is developing rapidly. After the palms are planted they require little care or attention, and at from five to seven years of age they bear fruit, and continue to do so during man's allotted span of life. For the year 1892 the value of *copra* and dried coconuts exported from Fiji was over £65,300. Notwithstanding competition, the value of the green fruit exported has increased from £22,623 in 1886 to £61,501 in 1891. Nearly the whole of this amount represents the value of bananas shipped for Australian and New Zealand ports, chiefly to New South Wales, Victoria, and Auckland. The intercolonial steamers carry some 40,000 bunches monthly to Sydney. For perfect development and richness of flavour the Fijian banana is pre-eminently superior to any other in the market. It requires no microscopic analysis to detect the delicious qualities of this luscious fruit; the marked contrast between it and the insipid local varieties may be detected at a glance. The bananas grow and flourish in most parts of the colony of Fiji, the soil and climate being eminently suited for the development of this most valuable and remunerative industry. There are, besides, abundance of pines of several varieties; these, too, are exported in considerable quantities; they grow to perfection, are deliciously flavoured, and consequently fetch a high price in the Australian market. Formerly the cotton industry of Fiji was a very flourishing one: in recent years it has received but little

[1] Statement of the Trade and Navigation of the Colony of Fiji.—*Legislative Council Paper*, No. 12, April 1893.

attention, owing to the low prices prevailing. Experience has, however, abundantly shown that the group can produce cotton of a quality better than can be obtained in any other country. On the black loamy soils of the elevated slopes, and in the rich sandy flats, the sea island variety grows to perfection. That a valuable and highly remunerative industry in the cultivation of tobacco could be established in the colony there is no doubt whatever in my own mind. Cultivated almost exclusively by the natives, the plant flourishes luxuriantly in all parts of the group. For some unaccountable reason, most probably owing to inexperience in curing the leaf, this crop has, until quite recently, been almost entirely neglected in Fiji. In a colony where there is a large consumption of tobacco by both Europeans and natives, it is astonishing that such a paying enterprise should yet await development. At one time coffee-growing promised to take a prominent place among the highly remunerative industries of the colony. A large area of land at Bua, on the island of Vanualevu, was cultivated and planted with coffee, and the prospects of success were most encouraging when, in an evil hour, the plants were smitten with the disease well known in Ceylon, *Hemileia vastatrix*, and thus a prospective source of wealth was destroyed. Owing to the introduction of coolies for plantation work, the amount of rice consumed locally is over 1000 tons annually. This at first was imported, but now its successful cultivation within the group will supply the demand. Experience has amply demonstrated the suitableness of the Fijian soil and climate for the profitable cultivation of this esculent grain, and the necessary machinery for hulling and polishing has been imported by the Government. Cinchona cultivation is, as yet, very much neglected in Fiji. It is much to be regretted that the necessary capital is not available for the cultivation of this tree, which in Fiji flourishes more vigorously than in any of the Asiatic regions. Fifty bushels to the acre is the average yield of maize, and in many localities the rich alluvial soils yield as much as 80 or 100 bushels—two, and sometimes three, crops being harvested annually. To tea-drinkers it will no doubt be interesting to know that in Fiji the average yield of this herb is about 600 lbs. per acre. The industry is yet in its infancy, and consequently there is more consumed locally than the planters can supply; it meets with a ready market at from 1s. 9d. a pound, and its delicious quality and flavour are much appreciated. Vanilla and ginger are also produced in the colony: the quality of the former is pronounced by experts equal to that grown in Mauritius, and it is believed that in Fiji the yield will be a very large one. A comparative analysis of samples of ginger from Cochin-China, Africa, Jamaica, and Fiji conclusively shows that the Fiji article is much richer in active constituents than the others. Peanuts also flourish in Fiji; they are gathered by the natives, and contribute from £4000 to £5000 annually to the revenue of the colony. In addition to what may be termed the main products of Fiji there are many others imperfectly developed, which could be rendered more profitable by cultivation, or only need enterprise and capital to render them remunerative. There is abundance of arrowroot, an excellent opening for the cultivation of sisal hemp, for which there is plenty of suitable land, and

a highly remunerative industry in castor and other varieties of oil-producing seeds and nuts, that grow wild and luxuriantly in almost every part of the group, might be established. To these may be added the West African kola nut (*Kola acuminata*), the Peruvian coca (*Erythroxylon coca*), and cinnamon, which have been recently introduced to the colony by his Excellency the Governor, Sir J. B. Thurston, who, in his interesting inaugural address to the Agricultural and Industrial Association of Fiji, earnestly invited attention to the commercial value of these plants, and their profitable cultivation elsewhere.[1] Oranges, and occasionally limes, grow wild in the virgin soils of the colony, the surface of the ground in many places being covered with a layer of the decayed fruit that annually falls off the trees. A few oranges are used by the natives as a substitute for soap, but otherwise there is no effort to utilise them, nor to cultivate them systematically, although the Chief Justice of Fiji, Hon. A. S. Berkley, pointed out the advantages of their cultivation,[2] drawing attention to the profits derived from the lime and orange industry in the West India Islands, where the concentrated lime juice and essential oil of limes are extracted, and a brisk trade has long been carried on in oranges.

Besides the products cultivated by Europeans it must not be forgotten that a considerable revenue is annually derived from exclusively native produce. The Fijians are an agricultural race, and, in addition to large quantities of food for their own consumption, plant cotton, sugarcane, tobacco, bananas, and maize, as well as other profitable articles of commerce, which are sold on the spot to European traders or taken to the most convenient market. It is usually from the surplus produce that their annual tax is paid to the Government. The commercial prosperity of Fiji mainly depends upon the successful development of the extensive agricultural resources of the colony, viewed from a broad and comprehensive standpoint. In the sugar industry a large amount of European capital is invested and employment found for a great number of people. Formerly, Polynesian labourers and Fijians were more generally employed to work the sugar plantations and in other industrial pursuits, but it was soon found that competition in the recruiting field from neighbouring colonies interfered with the island labour traffic to such an extent that it became impossible to meet the demands of the local labour market, and consequently arrangements were made in 1879 for the introduction of Indian immigrants. Of these there was in the year 1892 a population of some 10,000 souls in the colony. They are recruited in India and brought to Fiji, on the requisition of employers, at an average cost of from £16, 15s. to £23, 6s. for each adult. When on time-work men are paid a daily wage of 1s., and women receive 9d. per day. They provide their own food, but the employer finds them quarters and medical attendance. These coolies are brought to the colony for ten years; five of these they pass in the employ of the original requisitioner; during the remainder they work as free men, and at the end of that term are carried back to India at the expense of the State. The number of Polynesians at present in Fiji is about 2400, obtained

[1] *Handbook to Fiji*, 1892 (by authority), p. 50.

[2] *Ibid.* p. 66.

chiefly from the Solomon and New Hebrides archipelagoes, the initial cost of introduction amounting to about £16 per head, besides £5 to £7 a head for the return passage paid by the employer. Unlike the former class of labourers, the Polynesian is indentured for a period of only three years; during this time his wages are from £3 to £6 per annum, in addition to food, clothes, house accommodation, and medical attendance. At the expiration of his term of service he is free to return to his home or to re-engage by the year, at a wage of from £10 to £12 per annum. Besides these, there is a large complement of Line Islanders (Gilbert Islands), known in Fiji as *Tokelaus*, employed at one of the *copra* and fibre manufacturing stations at Cape Udu; these are imported by the station-owners themselves. Fijians may be employed within prescribed districts, under certain regulations enacted by the Legislature, at a wage of about 8d. per day and rations.

Of the different classes of labourers the Polynesians are generally preferred. When properly treated they are kind, affectionate, and willing, and are excellent and intelligent workers; upon this point the writer can speak from experience. For general plantation work, where the clearing of scrubs and felling of timber are required, Fijians are very capable workers; they are good in performing allotted tasks and for river traffic service, but, to give satisfaction, they require to be away from the immediate influence of their own people.

FAUNA.—Fiji is perhaps not remarkably rich in reptiles and other forms of animal life; its avifauna is limited to several varieties of wild duck, parrots, pigeons, and hawks; to snipe, sandpipers, the golden dove, and swamp hen; to the white and gray cranes, the cat bird, and other minute forms of the feathered family that dwell in forest solitudes. Lizards are numerous. Land and water snakes are luckily few in number and variety; the former lurk among the lower branches of trees, while the latter are sometimes found along the sea-shore; both kinds are apparently innocuous. Beetles, butterflies, and moths are plentifully represented in all parts of the group, and so are numerous other forms of insect life, from the tiny sand-fly to the venomous scorpion and stinging wasps. Worms there are, too, and ants of various kinds, nor must the scintillating little fireflies, the mosquitoes, and the common house flies be forgotten. The latter are somewhat troublesome, but they do a great deal of good as scavengers. To the entomologist Fiji offers many attractions that are by no means common. The marine fauna is extensive in variety and unsurpassed in beauty. A marvellous number of fish of all shapes, sizes, and colours haunt the intricacies of the coral areas of the group. In preserving these fishes some difficulty was formerly experienced in retaining their colours, and it was not until some one succeeded in preparing a mixture of glycerine and some other chemical substance that this obstacle was overcome. Sharks are numerous, but alligators are not present in the rivers and creeks. The molluscan fauna is amazingly rich in beautiful types; they range in size from the large clam shells down to the minutest forms. Land and fresh-water shells are also fairly numerous; the former are often found in the hilly ranges of the islands, and the latter abound in the rivers and creeks. There are

a few oyster-beds in some parts of the group, but these bivalves are very large here and the quality inferior to the Australian cultivated oysters. Crabs and fresh-water prawns are plentiful: they are captured and eaten by the natives. There are turtles in abundance, and lobsters also exist, though they are the least common kind of shellfish. The tree-climbing crab is also to be found in the northern part of Fiji. Cattle, pigs, and poultry thrive well in the colony: of the latter a very great number are owned by the natives, and are to them a source of wealth. A small rat and a flying fox are generally supposed to be the only mammals really indigenous to the group.

FLORA.—Within the narrow limits of a paper it is scarcely possible to do more than briefly summarise the leading features of the flora of a tropical region so densely clothed with a mantle of various forms of vegetation as Fiji. Generally speaking, the south-eastern side of the islands is covered with forest: on the opposite side forested areas occur in patches only, where the vegetation is more diversified and less vigorous. There is really no satisfactory reason why this should be so, considering the comparatively narrow areas of some of the islands. Very probably the vegetation of this group, as with that of other parts of the world, is largely influenced by the conditions of soil, and, possibly, the prevailing south-east winds contribute to its luxuriant growth. It is popularly believed that the air of the windward side of the land of Viti is more highly charged with moisture than that of the opposite side, but in this opinion I have always refused to concur, especially as there are really no lofty mountain ranges to interfere with an equal distribution of humidity. To the surveyor and the explorer the scrubs and other forms of vegetation are most exasperatingly dense. I was told when I went to Fiji that in some places the scrub was so thick that a party of seven or eight men could only cut a track of some seven or eight chains long in a day, and subsequent experience amply confirmed this statement. Dense and extensive areas of mangroves are usually associated with the salt-water swamps and mud flats along the seashore. The wood of this tree is very flexible and tough; the natives use it, with other sorts, for house-building and fencing purposes. In the forests are many kinds of really excellent and valuable timber trees; of these the *vesi* (*Afzelia bijuga*) and *dilo* (*Calophyllum inophyllum*) are especially well adapted for cabinet work, their grain being very beautiful and taking a fine polish. For durableness the former is little inferior to English oak. For building boats and other larger vessels the local shipwrights use the *dakua* (*Dammara vitiensis*), *vivi* (*Serianthes myriandenia*), and *damanu* (*Calophyllum Burmanni*). The *buabua*, or Fijian box-wood, is probably the most durable wood to be found in the group; it is used for a variety of useful purposes. There is a timber, light as cork, known to the natives as the *rara*; and the *viriviri* is but little heavier. There are also the excellent timber tree *dakua salusalu* (*Podocarpis vitiensis*) and other noted highland-dwellers. The weird-sounding *nokonoko* iron-wood (*Casuarina*) also flourishes, the economic *ivi* tree, or Polynesian chestnut (*Inocarpus edulis*), and the lowland-loving *Pandanus* palms. On the authority of Mr. John Horne, Director of the Mauritius Botanic

Gardens, who spent a year in the colony,[1] the indigenous flora of Fiji numbers some 1086 species of flowering plants and 245 species of ferns and allied plants: of these 635 species have been met with in Fiji only. The most numerous orders are *Leguminosæ*, represented by 36 genera and 62 species; *Rubiaceæ*, by 23 genera and 122 species; Orchids, by 25 genera and 49 species; *Euphorbiaceæ*, and *Urticaceæ*, each with 20 genera and 131 species. In addition to these there are doubtless new forms that await discovery. Of economic plants Fiji possesses many representative forms, to some of which reference has already been made. The *yaqona* plant (*Piper methysticum*) grows luxuriantly, and combines the qualities of utility and ornament. I cannot agree with the Rev. Thomas Williams and others who speak of the "narcotic" qualities of the beverage manufactured from it. The candle-nut tree (*Aleurites triloba*), or *lauci* as it is called by the natives, grows in abundance in most of the islands of the group. There is also a plentiful supply of delicious fruits, of which are the *wi* (*Spondias dulcis*) and *kavika* (*Eugenia Malaccensis*). Flowering plants are numerous and, with variegated shrubs, lend beauty and brightness to the landscape. Of these the hibiscus is most conspicuous. Nowhere else do I remember having seen such a copious variety of these remarkable flowers.

NATIVES.—To the ethnologist the origin of the Fijians, and other neighbouring peoples who occupy the widely scattered Pacific Islands, is a subject pregnant with interest and one upon which there is no doubt room for diversity of opinion. Philological data led to the belief that at some remote period the peoples of Polynesia were more closely associated than their present position would seem to indicate, and it is upon this aspect of the subject that I will now say a few words. How were the islands of Fiji and other parts of Polynesia peopled? Whence did their inhabitants derive their origin? If we were able to supply a satisfactory answer to these questions nothing further would be required. But in the absence of some historical record we can do nothing but speculate. However, in the case of the Fijians, I am disposed to support the opinion of the Rev. Thomas Williams[2] and other contemporaries, who believe in the Asiatic origin of these island-dwellers. In his excellent paper, contributed to the Geographical Society of California, Mr. Crawford Johnston furnishes what appears to me abundant evidence of the early connection of the Phœnicians with America, that in fine "the Aztec was the product of Phœnician adventure and civilisation."[3] It was the preternaturally adventurous spirit of these people that impelled them to undertake long voyages from the shores of Asia to the west coast of South America, and Mr. Johnston points out that their track, across the South Pacific, lay through Torres Straits eastwards, and, after skirting the shores of the Islands of Fiji, Tonga, Samoa, and other eastern groups, terminated on the American coast at Mexico and Peru. Along this great ocean highway Asiatic commercial enterprise and civilisation ran

[1] *A year in Fiji*, by John Horne, F.L.S., etc. p. 58.

[2] *Fiji and the Fijians*, p. 18.

[3] *Did the Phœnicians discover America?* by Crawford Johnston, Geographical Society of California: *Special Bulletin*, 1892.

hand in hand, for how long none can tell. But we are justified in conjecturing that it was along this highway that the scattered groups of Polynesia were peopled.

In colour and physique the Fijians, Samoans, Tongans, and Maoris are much alike, while between them and the natives of British New Guinea many dialectic affinities and similarities are known to exist. Attention has recently been invited to these by Mr. S. W. Brooks, in an interesting paper contributed to the Queensland Branch of the Royal Geographical Society of Australasia, in which the author points to the remarkable similarity between the causative prefix *Vaka* of the Fijian language and the Hiphil and Hophal conjugations of the Hebrew verb.[1] Taking these philological fragments in conjunction with the evidence adduced in support of our theory of the great "Melanesian Plateau," to which attention was drawn in an earlier part of this paper, we may conclude (1st) that the peoples of New Guinea, New Zealand, and Polynesia are sprung from an Asiatic stock; (2nd) that their physical and dialectic dissimilarities are due to tribal distinctions and not to racial differences; and (3rd) that these regions were peopled contemporaneously with the continent of America.

Class distinctions are generally recognised by the Fijians, and by no other race of people are they more rigidly respected. There are kings and queens, provincial chiefs, chiefs of villages; the low born who have gained distinction on the field of battle; the masses and the slaves. The king is designated *Tui; Roko* is the official title of a provincial chief, and a village chief is called *Turaga ni Koro*. The king is the head of the native State, and the provincial chiefs are his ministers. The native Parliament is held annually in each province in succession, and is usually opened by Her Majesty's representative. The session is short, and it is customary for the European Secretary for Native Affairs to be present during the sitting. The programme is arranged beforehand, and the occasion is one of unusual activity and feasting. New houses are built to accommodate visitors from neighbouring provinces; turtles are brought from all parts of the group; pigs are slaughtered wholesale; tons of vegetable food are consumed *ad nauseam*, and European delicacies find a place at the festive board. There is no lack of food while the season lasts, but extravagance is too often followed by dearth, and it not infrequently happens that for several months the majority of the people live upon wild vegetable food. Formerly the Fijians were divided into numerous septs, and these were constantly involved in warfare. There were the Kai Colos, who lived in the mountain regions of the interior, and the Kai Wais, dwellers on the sea-shore; the former wild and incorrigible, the latter cunning and voluble. Since the establishment of civil government and the development of missionary work, tribal distinctions in many districts have been almost altogether effaced, while in remote places the old order is very greatly modified. The process of transition, in some

[1] *Grammarial and Glossarial Similarities of the Languages of New Guinea and Fiji*, by S. W. Brooks. *Proc. and Trans. of the Queensland Branch of the Royal Geog. Society of Aust.* vol. viii.

cases, has no doubt been slow and gradual, but the fact remains that the entire native population of Fiji now acknowledge Christianity and the authority of the British Government, and appreciate the beneficial influences of these powerful civilising agents.

Throughout the group the Fijians live in coastal towns, in villages located along the rivers, and in the remote districts of the interior. Some of these centres are large, clean, and healthy, and decidedly attractive. The larger towns are usually built round roomy squares, and it is within this public space that the usual village amusements take place, when it is not being used for more important public purposes. Unlike the native houses of New Guinea, the Fijian dwellings are not raised on piles, but usually on foundations, often several feet in height, composed of coral and gravel. The houses are substantially built of hard and durable timber; the ground plan is usually rectangular, and the ridge-pole rests on long end and intermediate posts; the sides are supported by upright studs, that, like the posts, are sunk in the ground, and between these are reeds, fastened by strong cords of fibre sinnet and wild vines. The roof is thatched sometimes with the leaf of the sugarcane, but more frequently with grass and the leaves of wild plants. In most cases the sides are also thatched. The interior, of chiefs' houses and of those belonging to the better classes, is beautifully ornamented with plaited cords of dyed coconut fibre, called *magimagi*. The outer ends of the ridge-poles are usually ornamented with white cowrie shells, or with some other distinctive object, and the doorways are often elaborately finished off with coloured sinnet. In the chief provincial towns there are churches, school-houses, native court-houses, and jails. There are large club-houses, where the men meet to discuss social subjects and the affairs of the State. A house is provided for each family, and the girls sleep in separate quarters. Formerly many of the towns were fortified by deep ditches and palisades: in many places traces of these are still to be found, notably in the interior of Vitilevu, where a typical example of a Fijian stronghold exists in "Fort Carnarvon." At this post a European officer has been stationed for years, but the Fijian style of the fort is preserved. In their days of heathenism, polygamy was a recognised institution among the natives of Fiji. As a rule the custom was restricted almost exclusively to the chiefs, the common people being usually unable to keep more than one wife. To the number of wives belonging to a chief there was practically no limit, and the lot of these poor creatures, the favourites excepted, was not always enviable. Happily the old order of things has now completely passed away, and the full privileges of English marriage law are enjoyed throughout the group. These seem to commend themselves to all, and the divorce court is rarely resorted to. As a rule the Fijians have very small families, usually not more than two or three children each; there are strong reasons for believing that in most cases the number of children is regulated by the mother; but the domestic habits are not favourable to a rapid increase of population. The children are well nourished and cared for; they have abundance of out-door exercise; they are trained in sports, in industrial pursuits, and receive religious and secular instruction. The village schools are

conducted by native teachers attached to the Wesleyan and Roman Catholic bodies. Besides these, there are native State schools and the Wesleyan Training Colleges, where the native teachers are prepared. The whole educational organisation is very complete, and reflects great credit upon the promoters. The children are bright and intelligent; they learn to read well and to write well; they are fairly good at figures, and they sing agreeably. In the Roman Catholic schools they read music, and their songs are accompanied by the organ. Their religious instruction is carefully attended to, and, in most villages, morning and evening prayers are conducted, preceded by a hymn, in which old and young join. The Sabbath is a day of rest, and all take part in devotional exercises. Outwardly these people are Christians, but that they are so at heart I cannot affirm after my long experience in their midst. Their domestic relations are, in many respects, most admirable, and not unworthy of emulation by a much higher order of civilisation. The cares and worry of life are matters of little consequence to them; they are happy and contented and take little thought for the morrow. They are affectionate and hospitable to a fault, giving strangers a cordial welcome and supplying the hungry with abundance of food. As in times of old, the women still occupy an inferior position and do a large share of household and out-door work. But they do so without complaining, even when their lords and masters are enjoying ease and comfort. The domestic implements of this people are few and simple; the ground is dug with long-pointed digging-sticks and broken up and weeded by hand. Before American axes and other steel tools were introduced the natives used stone axes; for knives they used shells and split bamboos; plaited cords of fibre and wild vines were substitutes for nails, and, even now, these home-made articles have not been entirely superseded. The cooking utensils consist of earthenware pots, with occasionally vessels of European manufacture, but the earth and stone oven is used when much cooking has to be done. Wooden troughs and baskets lined with banana and bread-fruit leaves are used for serving up food, and fingers take the place of forks. Their weapons consisted of the spear, the club, the battle-axe, the bow, a large sling, and the European musket. Of clubs a great variety was formerly used by the Fijians, and with these effective weapons the condemned were usually despatched. The canoes are sharp at both ends, and have outriggers. Some large war and trading canoes are built double, with long raking masts and mat sails; they are steered by an oar, and can lie very close to the wind. The smaller reef and river canoes are single, hollowed-out logs of wood, but the larger kind are built of several dug-out pieces. They are very strongly and skilfully made, and they sail very fast, but I never felt comfortable and easy in them, although they often accomplish long sea journeys. Although naturally lovers of ease, the Fijians are often occupied in useful industrial pursuits; the women are expert mat-makers, and they manufacture a very fine native cloth called *masi*, from the bark of the *malo*, while pottery is also turned out by their skilful hands. The men build houses, fashion canoes and weapons, manufacture sinnet, and cultivate the ground. They are all expert swimmers, and instances are numerous of shipwrecked crews

having reached land after spending over a day and a night in the water without support. To Europeans this may seem an extraordinary feat, but the Fijians make no boast of it. It has always been a matter of surprise to me how insensible these people apparently are to physical pain. They cut and bruise themselves and burn themselves with fagots of wood, but the pain is borne in silence.

The Fijians certainly have many excellent and noble traits of character, and it is unjust to call them a weak and cowardly race. They were undoubtedly anthropophagous, and many horrible and revolting cruelties stigmatise their early history, but now they are civilised and useful British subjects, living in peace and enjoying prosperity. Generally speaking, they are strong and healthy; sufferers from ringworm and ophthalmia are sometimes met with, but phthisis is not a common disease; it is, indeed, from elephantiasis they suffer most, and this disfiguring and insidious affection constantly presents itself in every part of the group, the legs, feet, hands, arms and scrotum being the parts generally affected. The peculiar initiation ceremony of the Australian blacks and of other coloured races was formerly practised by the Fijians, especially by the tribal communities of Vitilevu, where certain districts were dedicated to the rite. In Fiji it is called the *Naga*. The veterans are very reticent upon this subject, and only those intimately acquainted with native life and character can obtain particulars of this interesting ceremony, which is now a thing of the past and rapidly sinking into oblivion.

There are several dialects spoken, but they differ so slightly that people of one province have no difficulty in communicating with their neighbours of another district, especially since the adoption of the Bau tongue as the written language of the country. Of this there is a grammar and a dictionary, the product of missionary labour. The English alphabet is used with the omission of the letters H, X, and Z.

In the beginning of April 1891, the native population of the group numbered 105,800, made up of 56,445 males and 49,355 females. It is, however, believed that there are about 3,700 more than the number actually recorded.

CLIMATE.—Although lying within the tropics, the Fiji Islands are exceptionally healthy. During about eight months of the year the tropical heat is greatly modified by the south-east trade winds, when the temperature is agreeably warm without being oppressive. At the approach of night these winds gradually die away and are superseded by the cool, refreshing land breeze; but, when the sun brightens the eastern sky, there is usually a calm of a few hours' duration till the trade winds set in about ten o'clock. Generally speaking, these are the ruling climatic features from April till November, when dull, wet, and stormy weather prevails. There is generally some anxiety felt during this unsettled period, to which the name of "Hurricane Season" has not inappropriately been given. It is between December and the end of March that the

[1] *Twelfth Annual Report of the Vital Statistics of the Native Population.—Years* 1890-1891.

devastating hurricanes, of which so much is heard, sometimes sweep across the Southern and Western Pacific with terrific force, uprooting trees, overthrowing houses, dashing vessels upon the coral-bound shores, and destroying the European and native crops. But crops grow rapidly in the rich soils of Fiji, and after the lapse of a few weeks the face of the country again smiles with an abundant harvest, and people in their happiness forget the fury of the elements amid increasing prosperity. European children thrive well in Fiji, and so do women who are thoroughly acclimatised; but I am constrained to concur with those who maintain that a tropical climate does not contribute to the general health of European females for prolonged periods. Indeed, to some female constitutions the enervating influence of a tropical climate is positively inimical. But, as already remarked, most of the European lady residents of Fiji enjoy good health, epidemics being very rare and malarial fevers unknown. It is during the wet season that the greatest discomfort is felt, when the excessive humidity permeates everything and renders life a burden.

Of the four divisions of the group, the southern is undoubtedly the coolest: the eastern is dry and cool; the north-west half of Vanualevu is dry and moderately cool, but the mass of land being greater than in the preceding divisions, the rainfall is less regular and the climate less uniform. Over the western division a greater precipitation occurs, and the climatological conditions are, perhaps, more irregularly distributed than in other parts of the archipelago, where the land areas are smaller. The barometric pressure ranges from 29·90 to 30·10 inches. The maximum shade temperature averages 84 degrees, and the minimum 72 degrees Fahr. The highest reading, 92 degrees in the shade, was recorded on four days in April and in December 1891, and on the 16th September of the same year the lowest reading of the thermometer was 61 degrees.

A Governor and an Executive Council administer the affairs of the Crown Colony of Fiji; a Legislative Council is also constituted, consisting of the Governor, as President, the Chief Justice and departmental heads, with whom are associated an equal number of unofficial members, nominated by the Governor and appointed by the Queen. The present Governor and Colonial Secretary is Sir J. B. Thurston, K.C.M.G., a warm supporter of science. For administrative purposes the group is partitioned into fifteen provinces named as follows:—Rewa, Tailevu, Naitasiri, Namosi, Serua, Colo, Nadroga, Ba and Yasawa Ra, Lomaiviti, Bua, Macuata, Cakaudrove, Lau and Kadavu. At the head of each of these there is a native official, paid by the State.

If an excuse be necessary for the rather inordinate length of this paper, it is hoped an adequate one will be found in the wide scope and vast importance of the subject. Nothing has been included which could have been omitted without impairing its value as a conscientious and trustworthy contribution on the broad geographical and physiographical aspects of the subject.

My cordial thanks are due to the Honourable the Colonial Secretary and to the Assistant Colonial Secretary, Mr. James Stewart of Fiji, for much valuable statistical information.